



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2021-0348; Project Identifier 2018-SW-076-AD]

RIN 2120-AA64

### Airworthiness Directives; Leonardo S.p.a. (Type Certificate Previously Held by Agusta S.p.A.) Helicopters

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to supersede Airworthiness Directive (AD) 2011-18-52 for certain Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters. AD 2011-18-52 requires revising the life limit for certain part-numbered tail rotor (T/R) blades, updating the helicopter's historical records, repetitively inspecting each T/R blade for a crack or damage, and depending on the results, replacing the T/R blade. Since the FAA issued AD 2011-18-52, the manufacturer developed improved T/R blades using different materials and established life limits for each improved blade. This proposed AD would retain certain requirements from AD 2011-18-52, revise certain requirements from AD 2011-18-52, and expand the applicability to include the newly-designed T/R blades. The actions of this proposed AD are intended to address an unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <https://www.regulations.gov>. Follow the online instructions for sending your comments electronically.

- Fax: (202) 493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Leonardo S.p.a. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://www.leonardocompany.com/en/home>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0348; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD, any comments received and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Matt Fuller, AD Program Manager, Operational Safety Branch, Airworthiness Products Section, General Aviation &

Rotorcraft Unit, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email Matthew.Fuller@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0348; Project Identifier 2018-SW-076-AD” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposal.

### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to, Matt Fuller, AD

Program Manager, Operational Safety Branch, Airworthiness Products Section, General Aviation & Rotorcraft Unit, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email Matthew.Fuller@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA issued Emergency AD 2011-18-52 on August 25, 2011, which was published as a Final rule; request for comments, on April 18, 2012 (77 FR 23109) (AD 2011-18-52). AD 2011-18-52 applies to Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters with a T/R blade part number (P/N) 3G6410A00131 or P/N 4G6410A00131 installed. AD 2011-18-52 requires, within 5 hours time-in-service (TIS), establishing a life limit of 600 hours TIS or 1,500 takeoff and landing cycles (cycles), whichever occurs first, on the affected T/R blades and updating the helicopter's historical records. If a T/R blade's total number of cycles is unknown, determining the T/R blade cycles by multiplying the T/R blade's hours TIS by 4 is required. For a T/R blade that, on the effective date of the AD, has already exceeded 600 hours TIS or 1,500 cycles, the AD requires replacing the T/R blade with an airworthy T/R blade within 5 hours TIS.

AD 2011-18-52 also requires, within 25 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, inspecting the T/R blade for a crack or damage that exceeds the limits of the applicable maintenance manual. The inspection must be accomplished using a mirror, magnifying glass (5X or greater), and light source; or borescope. If there is a crack, or if there is damage that exceeds the limits of the applicable maintenance manual, AD 2011-18-52 requires, before further flight, replacing the T/R blade with an airworthy T/R blade.

AD 2011-18-52 was prompted by a fatal accident involving an Agusta Model AW139 helicopter, which may have been caused by cracks in a T/R blade. EASA, which is the Technical Agent for the Member States of the European Union, issued EASA Emergency AD 2011-0156-E, dated August 25, 2011 (EASA AD 2011-0156-E) to require repetitive inspections and reducing the life limit of the T/R blades. According to EASA, this condition, if not detected and corrected, could result in failure of a T/R blade and subsequent loss of control of the helicopter.

#### **Actions Since AD 2011-18-52 Was Issued**

Since the FAA issued AD 2011-18-52, EASA issued a series of ADs as follows:

- EASA AD 2012-0030, dated February 17, 2012 (EASA AD 2012-0030), which superseded Emergency AD 2011-0156-E, advised that the manufacturer developed improved, newly-designed T/R blades P/N 3G6410A00132 and P/N 4G6410A00132, established life limits for each improved T/R blade, added repetitive inspections for the improved T/R blades, and advised that each T/R blade P/N had its own individual life limit.
- EASA AD 2012-0076, dated May 2, 2012 (EASA AD 2012-0076), which superseded EASA AD 2012-0030 and was issued after the manufacturer developed another version of improved T/R blades P/N 3G6410A00133 and P/N 4G6410A00133 with different materials. AD 2012-0076 required interim life limits for the new improved version of the T/R blades while also retaining the inspection requirements of EASA AD 2012-0030.
- EASA AD 2012-0076R1, dated July 13, 2012 (EASA AD 2012-0076R1), which revised EASA AD 2012-0076 after a modification was developed to allow installation of certain part-numbered T/R blades under certain conditions.
- EASA AD 2012-0076R2, dated February 20, 2014 (EASA AD 2012-0076R2), which revised EASA AD 2012-0076R1, was issued after another modification

was developed. EASA AD 2012-0076R2 requires removing the 25 hours TIS inspection of certain part-numbered T/R blades, extending the life limit of certain part-numbered T/R blades, retaining the repetitive inspections of certain part-numbered T/R blades and depending on the inspection results, performing certain applicable corrections.

Also, after AD 2011-18-52 was issued, the FAA issued an NPRM (78 FR 54596), which published in the *Federal Register* on September 5, 2013. The NPRM proposed to require retaining the inspection requirements for certain part-numbered blades and expand the applicability to include the newly designed blades and establish life limits for those blades. The NPRM also proposed to require replacing any cracked blade or any blade that has reached its life limit. That NPRM was prompted by improved modifications of the T/R blades. However, because the FAA determined that the NPRM does not adequately address the identified unsafe condition, the NPRM was withdrawn on February 25, 2021 (86 FR 11477).

Additional review also revealed necessary changes to address the unsafe condition. This proposed AD clarifies the repetitive inspection for T/R blade P/Ns 3G6410A00131 and P/N 4G6410A00131 from, “visually inspect the T/R blade for a crack or damage” to “visually inspect the T/R blade for a crack and damage.” This proposed AD further revises that repetitive inspection from “damage that exceeds the limits of the applicable maintenance manual” to “damage that exceeds allowable limits” to meet current publishing requirements. This proposed AD clarifies the inspection area for that repetitive inspection by proposing to require using a figure in the related service information instead of using a figure in the body of this AD action. This proposed AD also revises the requirements by removing unnecessary information, including the special flight permits paragraph.

#### **FAA’s Determination**

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA of the unsafe condition described in its AD. The FAA is proposing this AD after evaluating all known relevant information and determining that an unsafe condition is likely to exist or develop on other helicopters of the same type design.

#### **Related Service Information Under 1 CFR part 51**

The FAA reviewed AgustaWestland S.p.A Mandatory Bollettino Tecnico No. 139-265, Revision B, dated February 18, 2014. This service information specifies a precautionary inspection for a crack, a life limit for the affected T/R blades, and a quarantine of T/R blades that have exceeded their life limit. This service information also provides instructions for mixed usage of the affected T/R blades and sending certain data to the manufacturer.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **Proposed AD Requirements**

This proposed AD would retain the inspection requirements of AD 2011-18-52 for certain part-numbered T/R blades, expand the applicability to include the improved T/R blades, require determining each T/R blade's total hours TIS or landing cycles, and establish life limits for certain T/R blades. This proposed AD would require removing from service any T/R blade that has a crack or damage beyond allowable limits or any T/R blade that has reached its life limit.

#### **Differences Between this Proposed AD and EASA AD**

The EASA AD does not list the T/R blade life limits and instead references the Airworthiness Limitations Section of 139 AMPI Chapter 4, while this proposed AD

would include the life limits in the AD. The EASA AD requires reporting information to Product Support Engineering, whereas this proposed AD would not. The EASA AD requires contacting AgustaWestland if a crack or damage is found during the inspection, whereas this proposed AD would require removing the T/R blade from service.

### **Costs of Compliance**

The FAA estimates that this proposed AD would affect 130 helicopters of U.S. Registry. The FAA estimates that operators may incur the following costs in order to comply with this proposed AD. Labor costs are estimated at \$85 per work-hour.

Inspecting one T/R blade for a crack would take about 1 work-hour for an estimated cost of \$85 per T/R blade per inspection cycle and up to \$44,200 for the U.S. fleet per inspection cycle.

Replacing one T/R blade would take about 8 work-hours and parts would cost about \$40,560 for an estimated cost of \$41,240 per replacement.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.



## **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866,
2. Would not affect intrastate aviation in Alaska, and
3. Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 2011-18-52, Amendment 39-17020 (77 FR 23109, April 18, 2012); and
- b. Adding the following new airworthiness directive:

**Leonardo S.p.a. (Type Certificate Previously Held by Agusta S.p.A.):** Docket No. FAA-2021-0348; Project Identifier 2018-SW-076-AD.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

This AD replaces AD 2011-18-52, Amendment 39-17020 (77 FR 23109, April 18, 2012) (AD 2011-18-52).

**(c) Applicability**

This AD applies to Leonardo S.p.a. (type certificate previously held by Agusta S.p.A.) Model AB139 and AW139 helicopters, certificated in any category, with tail rotor (T/R) blade, part number (P/N) 3G6410A00131, 3G6410A00132, 3G6410A00133, 4G6410A00131, 4G6410A00132, or 4G6410A00133, installed.

**(d) Subject**

Joint Aircraft Service Component (JASC) Code: 6410, Tail Rotor Blades.

**(e) Unsafe Condition**

This AD defines the unsafe condition as a crack in a T/R blade. This condition could result in failure of a T/R blade and subsequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) For T/R blade P/Ns 3G6410A00131 and 4G6410A00131, within 5 hours time-in-service (TIS) after May 3, 2012 (the effective date of AD 2011-18-52), establish a life limit of 600 hours TIS or 1,500 takeoff and landing cycles (cycles), whichever occurs first, on the affected T/R blades and update the helicopter's historical records. If a T/R blade's total number of cycles is unknown, determine the T/R blade cycles by multiplying the T/R blade's hours TIS by 4.

(2) For T/R blade P/Ns 3G6410A00131 and 4G6410A00131, thereafter following paragraph (g)(1) of this AD, remove any T/R blade from service before accumulating 600 total hours TIS or 1,500 total cycles, whichever occurs first.

(3) For T/R blade P/Ns 3G6410A00132, 3G6410A00133, 4G6410A00132, and 4G6410A00133, within 5 hours TIS after the effective date of this AD, determine the total number of cycles. If a T/R blade's total number of cycles is unknown, determine the T/R blade cycles by multiplying the blade's hours TIS by 4. Before further flight, remove any T/R blade from service that has accumulated or exceeded its life limit as follows. Thereafter, remove any T/R blade from service before accumulating its life limit as follows:

(i) T/R blade P/Ns 3G6410A00132 and 4G6410A00132: 1,200 total hours TIS or 3,200 total cycles, whichever occurs first.

(ii) T/R blade P/N 3G6410A00133: 40,000 total cycles.

(iii) T/R blade P/N 4G6410A00133: 4,033 total hours TIS or 40,000 cycles, whichever occurs first.

Note 1 to paragraph (g)(3): A combination of T/R blades having different P/Ns can be installed on the same helicopter. The eligible combinations of T/R blades P/N are listed in AgustaWestland S.p.A. Mandatory Bollettino Tecnico No. 139-265, Revision B, dated February 18, 2014 (BT No. 139-265).

(4) For T/R blade P/Ns 3G6410A00131 and P/N 4G6410A00131, within 25 hours TIS after the effective date of this AD, and thereafter at intervals not to exceed 25 hours TIS, visually inspect the T/R blade for a crack and damage that exceeds allowable limits. Inspect in the area depicted in Figure 1 of BT No. 139-265 using a mirror, a 5X or higher power magnifying glass, and a flashlight, or borescope. If there is a crack or damage that exceeds allowable limits, before further flight, remove the T/R blade from service.

(5) As of the effective date of this AD, do not install on any helicopter any T/R blade P/N 3G6410A00131 or P/N 4G6410A00131, unless the actions required by paragraphs (g)(1), (2), and (4) of this AD have been accomplished.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (i)(1) of this AD. Information may be emailed to: email 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Matt Fuller, AD Program Manager, Operational Safety Branch, Airworthiness Products Section, General Aviation

& Rotorcraft Unit, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email [matthew.fuller@faa.gov](mailto:matthew.fuller@faa.gov).

(2) For service information identified in this AD, contact Leonardo S.p.a.

Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017

C.Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at

<https://www.leonardocompany.com/en/home>. You may view this service information at

the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy.,

Room 6N-321, Fort Worth, TX 76177.

(3) The subject of this AD is addressed in European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD 2012-0076R2, dated February 20, 2014. You may view the EASA AD on the Internet at <https://www.regulations.gov> in the AD Docket.

Issued on April 30, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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